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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,902	09/25/2003	**Karen M. Braun**	A2227-US-NP	6024

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EXAMINER	
DHINGRA, PAWANDEEP	
ART UNIT	**PAPER NUMBER**
2625	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/670,902	BRAUN, KAREN M.	
	Examiner	Art Unit	
	PAWANDEEP S. DHINGRA	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-17* is/are rejected.

7)☒ Claim(s) *5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/25/2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

- This action is responsive to the following communication: Amendment after final rejection filed on 5/1/2008.
- Claims 1-3, and 5-17 are now pending.

Response to arguments

Applicant's arguments, filed 5/1/2008, with respect to the rejection(s) of claim(s) under Newman have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yamamoto.

Drawing Objections

Previous objections to drawings are still valid since the applicant has not responded to all the objections made to the drawings in the previous office action. Examiner has reiterated the previous objections made to the drawings which were not addressed by the applicant in the section below. Appropriate corrections to the drawings are again requested.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features as disclosed in claim 1, in particular, c) selecting a best metameric pair match from said metameric pairs, which estimates said viewing illumination; d) entering an indicator of said estimated viewing illumination; and e) adjusting the characterization data to correspond

to said estimated viewing illumination; claim 2, a) choosing a base color; and b) for each illuminant of interest, determining a metameric match to said base color; and placing said base color adjacent to said metameric match to form a matched pair; claim 5, converting said base color to device values, CMYK, using said re-characterization; claim 10, indicator is entered via a Digital Front End or print driver to the printer; claim 11, Graphical User Interface,claim 17, a) printing Cyan, Magenta, Yellow, and black (CMYK) sweeps; b) measuring color values of said CMYK sweeps; c) building gray-balanced Tone Reproduction Curves (TRCs) based on said measured color values; d) inputting a value n into said gray-balanced TRCs to determine CMY colorant values; and e) inputting said value n into said gray-balanced TRCs to determine K colorant value. These feature(s) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Previous objection to specification is withdrawn in view of applicant's amendments to the claims.

Claim Rejections - 35 USC § 112

Previous 112 rejections to claims are withdrawn in view of applicant's amendments to the claims.

Claim Objections

Claim 5 is objected to because of the following informalities: Claim 5 depends from a cancelled claim 4. Appropriate correction is required.

Examiner Notes

Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5, and 7-17 are rejected under 35 U.S.C. 103 as being unpatentable over Newman et al., US 2003/0020727 in view of Yamamoto US 2002/0158933.

Re claim 1, Newman discloses a method for improving printer characterization to more accurately reproduce desired colors on a destination printing device (see figure 1) given the ambient illumination at the location where the printer's output is intended to be viewed (see abstract; figures 1, 3; and paragraphs 1,11-15), comprising: a) producing a target consisting of pairs of metamers (see S605-S607 in figure 6), where each pair matches for one illuminant and mismatches for others (see figures 4, 6, 9; paragraphs 45-59, 63-64, 67, note that pair (metamer) consists of x, y, and z values, and each pair (xyz) matches for one illuminant (e.g. X_{D50}, YD_{50}, and Z_{D50} are matched) and mismatches for others ($X_{D50}YD_{50}Z_{D50}$ pair doesn't match with $X_AY_AZ_A$ pair); c) selecting a best metameric pair match (i.e. best fit) from said metameric pairs, which estimates a viewing illumination (see figures 4, 6, 9; paragraphs 11-18 & 45-67); d) entering an indicator of a estimated viewing illumination (see paragraph 72); and e) adjusting the characterization data to correspond to a estimated viewing illumination (see paragraphs 65-72).

Newman fails to explicitly disclose b) viewing said target under the illumination for which characterization is desired; c) selecting a best metameric pair match from said metameric pairs, which estimates said viewing illumination; d) entering an indicator of said estimated viewing illumination; and e) adjusting the characterization data to correspond to said estimated viewing illumination.

However, Yamamoto teaches b) viewing said target under the illumination for which characterization is desired (see figure 8; paragraphs 60-73); c) selecting a best metameric pair match from said metameric pairs, which estimates said viewing illumination (see figure 8; paragraphs 60-73, note that user sets the actual (best) printing conditions from the various LUT values by selecting the best (apparent) tristimulus values to get the finest output based on the said viewing illumination); d) entering an indicator of said estimated viewing illumination (see paragraphs 60-73); e) adjusting the characterization data to correspond to said estimated viewing illumination (see paragraphs 60-73).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the color management system as disclosed by Newman to include the color printing techniques as taught by Yamamoto for the benefit of reducing "dependence of color appearance of gray image areas on the light source used" as taught by Yamamoto in paragraph 13.

Re claim 7, Newman further discloses rendering an illumination-determination target on a color reproduction device (i.e. printer) (see figure 1, and paragraph 59).

Re claim 8, Newman further discloses the illumination-determination target ~~for~~ has been prepared in advance of characterization (see paragraph 59).

Re claim 9, Newman further discloses the illumination-determination target ~~for~~ is shipped or otherwise provided with said destination printing device (see paragraph 59, note that the user can print the referenced spectral model provided with the device).

Re claim 10, Newman further discloses said indicator is entered via a Digital Front End or print driver to the printer (see figures 10-11).

[Note: Yamamoto also discloses said indicator is entered via a Digital Front End or print driver to the printer (see figure 8)].

Re claim 11, Newman further discloses a Graphical User Interface for indicating said estimation of illumination (see figures 10-11).

Re claim 12, Newman further discloses each illuminant of interest represented in said illumination-determination target is a profile (see figure 10-11, and paragraphs 72-73).

Re claim 13, Newman further discloses said profile is applied as a result of the indication of illumination (see figure 10-11, and paragraphs 72-73).

Re claim 14, Newman further discloses estimated illumination is used to modify said characterization via a pre- transformation or post-transformation (see figures 6-13).

Re claim 15, Newman further discloses device values for metameric matches are derived using a cellular Neugebauer model (see paragraphs 54-57).

Re claim 16, Newman further discloses one half of each ~~said~~ matched metameric pairs is produced with black (K) only and the other half is produced with Cyan, Magenta, and Yellow (CMY) (see paragraphs 54-72, note that various combinations of K and CMY can be applied based on the desired illuminant source, device type and type of analytical model used for characterizing the device).

Re claim 2, Newman fails to further disclose that the production of the target comprises: a) choosing a base color; and b) for each illuminant of interest, determining a metameric match to said base color; and placing said base color adjacent to said metameric match to form a matched pair.

However, Yamamoto discloses the production of the target comprises: a) choosing a base color (i.e. black or K); and b) for each illuminant of interest, determining a metameric match to said base color; and placing said base color adjacent to said metameric match to form a matched pair (see paragraphs 4-11, and 60-81).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the color management system as disclosed by Newman to include the color printing techniques as taught by Yamamoto for the benefit of reducing "dependence of color appearance of gray image areas on the light source used" as taught by Yamamoto in paragraph 13.

Re claim 3, Newman fails to further disclose said metameric matched pairs are produced using different colorants.

However, Yamamoto further discloses said metameric matched pairs are produced using different colorants (see paragraphs 4-11, and 60-81).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the color management system as disclosed by Newman to include the color printing techniques as taught by Yamamoto for the benefit of reducing "dependence of color appearance of gray image areas on the light source used" as taught by Yamamoto in paragraph 13.

Re claim 5, Newman further disclose converting said base color to device values, CMYK, using said re-characterization (see paragraphs 45-72).

Re claim 17, Newman further discloses producing said metameric pairs comprises, for each illuminant of interest: (see figure 6): a) printing Cyan, Magenta, Yellow, and black (CMYK) sweeps (see paragraph 59); b) measuring color values of said CMYK sweeps (see paragraph 59).

Newman fails to further disclose building gray-balanced Tone Reproduction Curves based on said measured color values; d) inputting a value n into said gray-balanced Tone Reproduction Curves to determine CMY colorant values; and e) inputting said value n into said gray-balanced Tone Reproduction Curves to determine K colorant value.

Yamamoto discloses building gray-balanced Tone Reproduction Curves (i.e. gray-reproduction characteristics) based on said measured color values (see abstract and paragraph 66); d) inputting a value n into said gray-balanced Tone Reproduction Curves to determine CMY colorant values and e) inputting said value n into said gray-balanced Tone Reproduction Curves to determine K colorant value (see paragraphs 60-81).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the color management system as disclosed by Newman to include the color printing techniques as taught by Yamamoto for the benefit of reducing "dependence of color appearance of gray image areas on the light source used" as taught by Yamamoto in paragraph 13.

3. Claim 6 is rejected under 35 U.S.C. 103 as being unpatentable over Newman et al., US 2003/0020727 in view of Yamamoto US 2002/0158933 further in view of Well-known art.

Re claim 6, Newman fails to further disclose that the target includes either bipartite patches, concentric patches, readability tasks, or half-and-half images.

However, Official Notice is taken to note that targets (i.e. reference color test charts) includes either bipartite patches, concentric patches, readability tasks, or half-and-half images is notoriously well known and commonly used in the art. It would have been obvious to use those target charts as a spectral model in the color management

system of Newman for the benefit of enabling the user to estimate likely XYZ (i.e. color matching) values for the given color patch (see paragraphs 59 & 68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the color management system as disclosed by Newman to include the color printing techniques as taught by Yamamoto for the benefit of reducing "dependence of color appearance of gray image areas on the light source used" as taught by Yamamoto in paragraph 13.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAWANDEEP S. DHINGRA whose telephone number is (571)270-1231. The examiner can normally be reached on M-F, 9:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler L. Haskins can be reached on 571-272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. D./
Examiner, Art Unit 2625

/Twyler L. Haskins/
Supervisory Patent Examiner, Art Unit 2625